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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,135	02/01/2002	Dao Hinh Nguyen	0019-8	2513

7590 09/15/2003

Ernest D. Buff  
Ernest D. Buff & Associates, LLC  
245 South Street  
Morristown, NJ 07960

EXAMINER

VALENTIN, JUAN D

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/062,135

Applicant(s)

NGUYEN ET AL.

Examiner

Juan D Valentin II

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 67 recites the limitation "said explosive agent" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3 rejected under 35 U.S.C. 102(e) as being fully anticipated by Sebastian et al. (USPN '321, hereinafter Sebastian).

**Claim 1**

Sebastian discloses a method of removing a detectable portion of a pre-selected contraband substance present on a surface, comprising illuminating said surface with light emitted from an infrared laser, said illumination having sufficient intensity and duration to cause selective desorption of molecules of said contraband substance without substantially damaging said surface (col. 13, lines 20-62).

**Claim 2**

Sebastian discloses the use of a continuous infrared beam (col. 10, lines 48-52).

**Claim 3**

Sebastian discloses a method wherein the said infrared laser emits pulses of infrared light (col. 14, lines 14-19).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 5, & 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebastian.

**Claims 4, 5, & 6**

Sebastian discloses the claimed invention except for the actual specific pulse repetition rate, and spot size (spot focusing) data. It would have been obvious to one having ordinary skill in the art at the time the invention was made to experimentally adjust the lasing and laser beam parameters, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. Sebastian discloses a pulse duration of 100 microseconds (col. 14, lines 17-19).

5. Claims 7 & 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebastian in view of Carrieri (USPN '179).

**Claims 7 & 8**

Sebastian substantially teaches the claimed invention except that it fails to show wherein said laser is a CO<sub>2</sub> laser wherein said CO<sub>2</sub> gas in said laser is isotopically enriched. Carrieri shows that it is known to provide a CO<sub>2</sub> isotopically enriched laser (abstract, col. 3, line 65-col. 4, line 47) for a thermoluminescence sensor. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the CO<sub>2</sub> isotopically enriched laser of

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Carrieri for the purposes of producing a photoluminescent signal from the substrate being analyzed (col. 2, lines 33-36).

6. Claims 9-20, 23-43, 46-66, & 68 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebastian in view of Megerle (USPN '977 B2).

**Claims 9-11**

Sebastian substantially teaches the claimed invention except that it fails to show wherein said contraband substance comprises an explosive, a narcotic, or a chemical agent. Megerle shows that it is known to provide a contraband substance comprising an explosive, a narcotic, or a chemical agent (abstract) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system for detecting an explosive, a narcotic, or a chemical agent of Megerle for the purposes of providing protection from outside threats.

**Claim 12**

Sebastian discloses in conjunction with Fig. 3, a method of detecting the presence of a pre-selected contraband substance on a surface (B) of an object comprising the steps of illuminating an interrogation area of said surface with a beam of light emitted from an infrared laser, said illumination having sufficient intensity and duration to cause selective desorption of molecules of said contraband substance present on said surface without substantially damaging said surface (col. 13, lines 20-62). Sebastian discloses collecting at least a portion of said desorbed molecules in a collection system and analyzing said portion in a chemical analysis system, the system being associated with said collection system and comprising a detector

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responsive to the presence in said chemical analysis system of said contraband substance (col. 9, line 37-col. 10, line 37).

Sebastian substantially teaches the claimed invention except that it fails to show outputting an electrical signal representative of said presence of said contraband substance and activating signal means operably connected to said chemical analysis system in response to the output of said electrical signal. Megerle shows that it is known to provide an electrical signal representative of said presence of said contraband substance and activating signal means in response to the output of said electrical signal (col. 26, lines 27-39) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system that outputs a electronic signal to a visual alarm when a contraband substance is detected of Megerle for the purposes of providing protection from outside threats.

#### **Claim 13**

Sebastian in view of Megerle discloses the use of a continuous infrared beam (col. 10, lines 48-52).

#### **Claim 14**

Sebastian in view of Megerle discloses a method wherein the said infrared laser emits pulses of infrared light (col. 14, lines 17-19).

#### **Claim 15**

It is obvious to one having ordinary skill in the art at the time the invention was made that most lasers are continuous and some form of shutter (chopper) is required in order to create a

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pulsed beam of light. Therefore, it is inherent that the pulsed laser of Sebastian in view of Megerle is created using a shutter (chopper) to create a pulsed effect.

**Claim 16**

Sebastian in view of Megerle discloses a method wherein the said infrared laser emits pulses of infrared light (col. 14, lines 14-19).

**Claim 17, 18, 19, & 20**

Sebastian discloses the claimed invention except for the actual specific pulse repetition rate, spot size (spot focusing) data, and fluence. It would have been obvious to one having ordinary skill in the art at the time the invention was made to experimentally adjust the lasing and laser beam parameters, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. Sebastian discloses a pulse duration of 100 microseconds (col. 14, lines 17-19).

**Claims 23-26**

Sebastian substantially teaches the claimed invention except that it fails to show wherein said contraband substance comprises an explosive, an organo-nitro explosive, a narcotic, or a chemical agent. Megerle shows that it is known to provide a contraband substance comprising an explosive, an organo-nitro explosive (List of Explosive Materials), a narcotic, or a chemical agent (abstract) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system for detecting an explosive, a narcotic, or a chemical agent of Megerle for the purposes of providing protection from outside threats.



**Claims 27-29**

Official notice taken. It is the position of the Office that Pyrolysis electrochemical detectors and surface ionization detectors are common detectors in the field of contraband detection and in combination with the recited limitations of claim 12 do not distinguish patentability over prior art disclosure. Therefore, Applicant will be appreciated that the reference of Sebastian in view of Megerle reads on the claimed limitations. Sebastian discloses the use of GC/IMS detectors (col. 13, line 63-col. 14, line 6).

**Claim 30**

Sebastian discloses a method further comprising relative motion of said beam of light to illuminate an extended interrogation zone (Fig. 2). Sebastian substantially teaches the claimed invention except that it fails to show a method further comprising relative motion of said object to illuminate an extended interrogation zone. Megerle shows that it is known to provide relative motion of said object (Fig. 9) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the relative motion of said object of Megerle for the purposes of providing protection from outside threats.

**Claim 31**

Sebastian in view of Megerle disclose a method further comprising movably deflecting said light with an optically deflecting component to illuminate an extended interrogation zone (col. 4, line 60-col. 5, line 9).

**Claim 32**

Sebastian in view of Megerle discloses a method wherein said optically deflecting component is a rotating mirror (col. 4, line 60-col. 5, line 9). It is the position of the Office that

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the scanner optics taught by Sebastian which state, "Those of skill in this field will recognize that a **variety** of mechanical and electronic scanning devices and techniques may be utilized," read on the Applicants claimed limitations.

**Claim 33**

Sebastian substantially teaches the claimed invention except that it fails to show a method further comprising moving said object on a conveyer belt. Megerle shows that it is known to provide moving said object on a conveyer belt (Fig. 9) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the relative motion of said object of Megerle for the purposes of providing protection from outside threats.

**Claim 34**

Sebastian in view of Megerle disclose a method wherein said beam of light is raster scanned over said extended interrogation zone (col. 5, lines 6-8).

**Claim 35**

Sebastian in view of Megerle discloses in conjunction with Fig. 2, a method further comprising displaying a mapping on a computer display terminal (3), said mapping being indiciatvie of the locations at which a contraband substance has been detected (col. 9, line 37-col. 10, line 32).

**Claim 36**

Sebastian discloses an apparatus for non-destructively detecting the presence of a contraband substance on a surface of an object comprising an infrared laser adapted to emit light and an optical system adapted to deliver a beam of said light emitted from said infrared laser to

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illuminate an interrogation area of said surface, said illumination having sufficient intensity and of molecules of said duration to cause selective desorption contraband substance present on said surface without substantially damaging said surface (col. 13, lines 20-62). Sebastian discloses a collection system adapted to collect at least a portion of said desorbed molecules. Sebastian discloses a chemical analysis system associated with said collection system and having a detector responsive to the presence in said collection system of said desorbed molecules (col. 9, line 37-col. 10, line 37).

Sebastian substantially teaches the claimed invention except that it fails to show outputting an electrical signal representative of said presence of said contraband substance and activating signal means operably connected to said chemical analysis system in response to the output of said electrical signal. Megerle shows that it is known to provide an electrical signal representative of said presence of said contraband substance and activating signal means in response to the output of said electrical signal (col. 26, lines 27-39) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system that outputs a electronic signal to a visual alarm when a contraband substance is detected of Megerle for the purposes of providing protection from outside threats.

**Claim 37**

Sebastian in view of Megerle discloses the use of a continuous infrared beam (col. 10, lines 48-52).

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**Claim 38**

Sebastian in view of Megerle discloses an apparatus wherein the said infrared laser emits pulses of infrared light (col. 14, lines 17-19).

**Claim 39**

It is obvious to one having ordinary skill in the art at the time the invention was made that most lasers are continuous and some form of shutter (chopper) is required in order to create a pulsed beam of light. Therefore, it is inherent that the pulsed laser of Sebastian in view of Megerle is created using a shutter (chopper) to create a pulsed effect.

**Claim 40**

Sebastian in view of Megerle discloses an apparatus wherein the said infrared laser emits pulses of infrared light (col. 14, lines 14-19).

**Claim 41-43**

Sebastian discloses the claimed invention except for the actual specific pulse repetition rate, spot size (spot focusing) data. It would have been obvious to one having ordinary skill in the art at the time the invention was made to experimentally adjust the lasing and laser beam parameters, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. Sebastian discloses a pulse duration of 100 microseconds (col. 14, lines 17-19).

**Claim 46-49**

Sebastian substantially teaches the claimed invention except that it fails to show wherein said contraband substance comprises an explosive, an organo-nitro explosive compound or inorganic nitrate salt, a narcotic, or a chemical agent. Megerle shows that it is known to provide

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a contraband substance comprising an explosive, an organo-nitro explosive (List of Explosive Materials), a narcotic, or a chemical agent (abstract) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system for detecting an explosive, a narcotic, or a chemical agent of Megerle for the purposes of providing protection from outside threats.

**Claims 50-52**

Official notice taken. It is the position of the Office that Pyrolysis electrochemical detectors and surface ionization detectors are common detectors in the field of contraband detection and in combination with the recited limitations of claim 36 do not distinguish patentability over prior art disclosure. Therefore, Applicant will be appreciated that the reference of Sebastian in view of Megerle reads on the claimed limitations. Sebastian discloses the use of GC/IMS detectors (col. 13, line 63-col. 14, line 6).

**Claim 53**

Sebastian in view of Megerle discloses an apparatus wherein said optical system comprises at least one deflecting optical component and means for imparting motion thereto, the motion of said deflecting optical component changing the location at which said beam impinges on said surface, thereby extending said interrogation zone (col. 4, line 60-col. 5, line 9).

**Claim 54 & 55**

Sebastian substantially teaches the claimed invention except that it fails to show an apparatus further comprising translation means adapted to move said object. Megerle shows that it is known to provide translation means adapted to move said object (Fig. 9) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device

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of Sebastian with the relative motion of said object of Megerle for the purposes of providing protection from outside threats.

**Claim 56**

Sebastian substantially teaches the claimed invention except that it fails to show an apparatus further comprising moving said object on a conveyer belt. Megerle shows that it is known to provide moving said object on a conveyer belt (Fig. 9) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the relative motion of said object of Megerle for the purposes of providing protection from outside

**Claim 57**

Sebastian in view of Megerle discloses an apparatus wherein said beam of light is raster scanned over said extended interrogation zone (Sebastian, col. 5, lines 6-8).

**Claim 58**

Sebastian in view of Megerle discloses further comprising a computer operably connected to said detector, said drive motor, and said translation means. Sebastian discloses a computer display terminal associated with said computer (Fig. 9, 3), said computer being adapted to control the operation of said drive motor and said translation means. Sebastian discloses said computer further being adapted to display on said computer display terminal a mapping representative of the positions on said surface at which said contraband substance is detected (col. 9, line 37-col. 10, line 37).

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**Claim 59 & 61**

It is obvious to someone of ordinary skill in the art to detect contraband while maintaining an intensity and duration of said illumination that is not sufficient to cause substantial deflagration or detonation of said substance present on said surface in order to insure the safety of those performing the analyzations.

**Claims 60 & 62**

Sebastian substantially teaches the claimed invention except that it fails to show wherein said explosive agent comprises a plastic explosive. Megerle shows that it is known to provide a explosive agent comprises a plastic explosive (col. 3, line 28-36) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system for detecting plastic explosives of Megerle for the purposes of providing protection from outside threats.

**Claims 63-66**

Official notice taken. It is the position of the Office that FIS, gas-phase infrared, and photo acoustic detectors are common detectors in the field of contraband detection and in combination with the recited limitations of claim 36 do not distinguish patentability over prior art disclosure. Therefore, Applicant will be appreciated that the reference of Sebastian in view of Megerle reads on the claimed limitations. Sebastian discloses the use of GC/IMS detectors (col. 13, line 63-col. 14, line 6).

**Claim 68**

Sebastian substantially teaches the claimed invention except that it fails to show wherein said explosive agent comprises an inorganic nitrate salt. Megerle shows that it is known to

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provide a explosive agent comprising an inorganic nitrate salt (List of Explosive Materials) for a security system. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian with the security system for detecting an explosive, a narcotic, or a chemical agent of Megerle for the purposes of providing protection from outside threats.

7. Claims 21, 22, 44, & 45 rejected under 35 U.S.C. 103(a) as being unpatentable over Sebastian in view of Megerle and further in view of Carrieri.

**Claims 21, 22, 44, & 45**

Sebastian in view of Megerle substantially teaches the claimed invention except that it fails to show wherein said laser is a CO<sub>2</sub> laser wherein said CO<sub>2</sub> gas in said laser is isotopically enriched. Carrieri shows that it is known to provide a CO<sub>2</sub> isotopically enriched laser (abstract, col. 3, line 65-col. 4, line 47) for a thermoluminescence sensor. It would have been obvious to someone of ordinary skill in the art to combine the device of Sebastian in view of Megerle with the CO<sub>2</sub> isotopically enriched laser of Carrieri for the purposes of producing a photoluminescent signal from the substrate being analyzed (col. 2, lines 33-36).



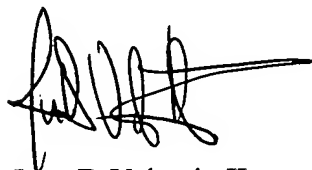
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*Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (703) 605-4226. The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308- 0955.



Juan D Valentin II  
Examiner 2877  
JDV



Michael R. Statira  
Primary Patent Examiner  
Technology Center 2800